

means that, in the case of the incumbent LEC, each loss of local exchange revenues at retail would be partly offset by an increase in wholesale revenues: the difference would be the loss of "contribution" to the incumbent's joint and common costs. This loss would either be made up in retail sales elsewhere or written off (*i.e.*, taken as reduced shareholder earnings).

The ATP assert that this is appropriate because *all* competitors will have joint and common costs to be recovered, and all will be forced to do so at retail. Therefore, the firm with the lowest joint and common costs will be most profitable (or least unprofitable), and prices will be driven down to the lowest total cost (all else being equal).¹⁵⁷

NYNEX opposes this recommendation. It asserts that the economically efficient wholesale price for interconnection is the LRIC for the interconnection service *plus* a mark-up for the net retail revenues foregone by providing that service to a competitor.¹⁵⁸ The rule that NYNEX proposes to calculate that mark-up is the Efficient Component Pricing Rule,¹⁵⁹ which for the reasons detailed in Section III.B. I reject. Nevertheless, that does not resolve the question of whether some mark-up in wholesale pricing is appropriate.

A competitor's decision to enter the Vermont market *should* depend on its assessment of its relative efficiency and associated potential for profitability in marketing chosen retail services. The CLEC's ability to efficiently manage its common costs will ultimately determine whether it is generally profitable and satisfies its shareholder demands. It is not clear, however, that such costs and efficiencies should greatly affect how wholesale prices for essential facilities are set by the incumbent LEC. The practical effect of removing the "contribution" or mark-up to cover the incumbent's joint and common costs is to simply improve the CLEC's margin or potential profitability from the sale of retail services in the Vermont market. For those joint and common costs of the LEC that are economic and deemed appropriate for recovery, the resulting competitive pressures would simply necessitate shifting the foregone wholesale mark-up on essential services to other "non-essential" wholesale and retail services.¹⁶⁰

157. Cornell reb. pf. at 11; tr. 8/29/95 at 221; exh. H-2 at 7.

158. Taylor pf. at 29-31.

159. *Id.*; tr. 8/31/95 at 402; *see also* NYNEX Brief at 41-42.

160. Frontier and the ATP do not recommend that the wholesale prices of "non-essential" services and functionalities be prohibited from carrying a mark-up.

By definition, the truly "common" costs of new entrants are not incremental to their entry into the Vermont market.¹⁶¹ As such, the entrants should not require an additional margin to cover their common costs in order to enter. While it seems plain that a greater wholesale-retail differential resulting from the exclusion of the LEC's mark-up at wholesale would likely, other things being equal, encourage entry, I do not believe it would do so in a way that would ultimately serve Vermont consumer interests in efficient competition.

This conclusion can be better understood by examining the differences between the services provided by a competitive entrant and those that are currently provided by an incumbent LEC. An entrant that purchases essential facilities from the LEC to deliver at retail is providing an exclusively retail service. The incumbent LEC, however, is functioning both as a retail service provider and as a provider of facilities for competitors. Even were the established LEC to abandon its role as a retail service provider (or were ordered to do so), it would still need to recover its economic common costs; I would doubt its ability to do so if it is prevented from marking up its wholesale prices. If, instead, the LEC continues to provide retail services but is constrained to recover its mark-up only on retail, it is still faced with the prospect of failing to adequately do so as the market becomes truly competitive: competition will force prices down to the sum of the wholesale price plus the efficient incremental cost to deliver the service at retail, and there will be no margin for legitimate joint and common costs. Note that in neither case does competition really force both the CLECs and the incumbent to efficiently manage their joint and common costs, because in this analysis the CLECs do not have any such costs to recover.¹⁶²

I am not yet persuaded that the LEC's non-essential and competitive services can bear the burden of recovering all its joint and common costs; but a final conclusion must await the completion of the requisite cost studies. At this point, there is no evidence to establish whether additional efficiencies could be "wrung out" of non-essential and competitive services, sufficient to cover the LEC's common costs. Nor is there evidence on the magnitude of the "contribution" currently captured from the essential facilities. At this time,

161. Tr. 8/31/95 at 404.

162. Tr. 8/31/95 at 404-405.

lacking such evidence, I conclude that it would be inappropriate to restrict the pricing of essential facilities to no more than the TSLRIC.¹⁶³

Notwithstanding this conclusion, I do share the concerns of the ATP that, under these pricing rules, competitors may be required to cover some uneconomic costs of the incumbent LEC. However, I believe that the question of uneconomic LEC costs can, and should, be resolved in the rate-setting process, be it rate-of-return or some form of alternative regulation (e.g., price caps). In that context, the imposition of an additional constraint on the mark-up of wholesale prices may also be appropriate, for example in order to encourage a gradual "rebalancing" of retail rates through competitive pressures.¹⁶⁴

b. Retail Prices

The incumbent LEC's retail prices should be set according to Equation (1), above. This embodies the imputation rule which is necessary to prevent anti-competitive practices on the part of the incumbent LEC. See Section III.D.4.d.

c. Calculation of the Mark-Up

It has been asserted many times in this investigation that the sum of the forward-looking cost estimates of all of NYNEX's services (as measured by TSLRIC) will be less than the Company's total embedded cost of service or revenue requirement. The revenue requirement consists of current operating and historic investment costs, including a return on that investment. It has been generally assumed by witnesses in this docket that NYNEX's historic investment costs are likely to be greater than the costs of current and future technology. If so, the TSLRIC of all services will also, by definition, exclude certain common costs because the telecommunications technologies exhibit substantial economies of scope and scale.

163. Again, I must reiterate that, until the cost studies are completed, we do not know if essential services currently provide any "contribution" to joint and common costs or, if they do, whether that or any level of "contribution" should continue as we move to greater competition. If they do not, then the question of pricing them above TSLRIC at wholesale may effectively be mooted.

164. Managing wholesale pricing and mark-ups in this fashion will very likely have the same practical consequence as would adoption of the Department's proposal, namely, effecting a transition as competition increases. Raymond pf. at 8-9.

Various proposals have been advanced in this investigation for either removing portions of these costs from rates or enabling the recovery of such costs. In general, I conclude that legitimate costs in excess of the forward-looking costs of service should be recovered from all categories of services, at both the wholesale and the retail service levels, in a manner that is consistent with the above pricing principles. The level of such cost recovery should be determined either through a traditional rate case or through an incentive rate regime.

i. The Efficient Component Pricing Rule

NYNEX and the Independents propose that wholesale prices be calculated according to a methodology called the Efficient Component Pricing Rule ("ECPR") which, in essence, prescribes how to compute the level of the mark-ups to be added to the TSLRICs of wholesale services. ECPR, as proposed, requires that LECs price certain wholesale services at the sum of their forward-looking cost estimates and the retail contribution foregone (retail price less forward-looking cost) when those services are supplied to a competitor.¹⁶⁵ ECPR includes, as a cost, the lost *net* revenues associated with access and other retail services connected with the demand for the wholesale service.¹⁶⁶ The amount of "contribution" purported to be forgone by the incumbent LEC in reselling, for instance, the link (the connection between the final end-user and the first point of switching) includes net revenues associated with dial tone, carrier access services, local measured service, vertical services, and intraLATA toll services.¹⁶⁷ NYNEX argues that the ECPR should be adopted for two reasons:

- It will keep the LEC "whole," enabling it to recover the costs of past investments and potentially other on-going costs of providing service;¹⁶⁸ and
- It will promote economic efficiency through pricing.¹⁶⁹

The independent local exchange providers argue that the issue of lost contribution is a special problem for them due to the heavy contribution from toll access revenues that would be eroded if competitors can purchase the link and bypass the toll access charges of the

165. Taylor pf. reb. at 20.

166. Schoonover pf. at 32; Taylor pf. at 29; Taylor reb. pf. at 28-29.

167. Taylor pf. at 31.

168. Taylor pf. at 29; Schoonover pf. at 16-17; Cornell pf. reb at 10.

169. Taylor pf. at 29.

independent LEC.¹⁷⁰ The issue of bypass and lost revenues here will compound the pressures on basic rates that small independent companies are facing with respect to other federal cost support programs and methods for cost allocation.¹⁷¹

I conclude that the ECPR as proposed is administratively impractical, speculative, and unlikely to serve its theoretical objectives. Moreover, I conclude that the ECPR would create a barrier to competitive entry.¹⁷² For the reasons that follow, I conclude that the efficient component pricing rule should not be adopted by the Board.

To begin, the lost revenues associated with the rule in its purest form would be a constantly evolving figure. Its use would require determination of the type and volume of vertical service demands for *every* LEC customer on a forward-looking basis.¹⁷³ On its face, such a proposal would be burdensome, potentially discriminatory, and administratively impractical. Furthermore, the "pure" ECPR would include undue speculation over the demands for future services that would otherwise have been provided by the incumbent. And it would also create tremendous uncertainty with respect to the service demands that would migrate from the incumbent to potential competitors.¹⁷⁴

170. Schoonover pf. at 7-9. As an illustration, Mr. Schoonover asserted that a loss of the top five percent would result in lost revenues that would correspond to rate increases ranging from 48.6 to 152.3 percent. Schoonover pf. at 17-19; exh. Independents PM-1. Cost recovery, however, for at least a major category of toll revenues for the independents (and, to a lesser degree, NYNEX), namely interstate access, occurs through a complex system of revenue-pooling among providers. "Cost-based" LECs settle with the National Exchange Carriers Association ("NECA") on the basis of investment and expenses, whereas "average schedule" LECs settle with NECA on the basis of reported demand units. The analysis of the independent LECs appears to reflect a proportional loss in jurisdictional revenues corresponding to the loss of interstate toll minutes of use. It is unclear, however, how the loss of interstate toll traffic could correspond to such a loss for the cost-based LECs, given other assumptions regarding the loss of intrastate traffic. *See, for example*, Parts 36.124 and 36.156. I also question whether the analysis should reflect reductions in costs (for savings) that might correspond to the revenue losses (e.g., for services such as "billing and collection.") This question will be analyzed more fully in Phase II.

171. Schoonover pf. at 12; exh. Independents-3.

172. Cornell pf. reb. at 14.

173. Cornell pf. reb. at 8, 13. Included among the dynamic elements are the (1) demand levels for each of the vertical service offerings, (2) the array of vertical services being offered, and (3) prices associated with those vertical service offerings.

174. Taylor pf. at 31.

I need not dismiss the possibility that, under certain restrictive assumptions, the ECPR could be effective in promoting efficiency in select portions of the retail market.¹⁷⁵ Nevertheless, I question whether the environment and related assumptions in which these arguments are made are indeed applicable to today's market for telecommunications services.¹⁷⁶ At a minimum, the efficiency rationale for the proposal is suspect in light of its potential to create investment and innovation distortions, including uneconomic bypass of the local loop.¹⁷⁷ I conclude that, when combined with other impediments to entry (largely environmental), the ECPR will forestall all but facilities-based competition, including that associated with potentially inefficient investment. This damping effect on competition will further diminish the dynamic efficiencies that would otherwise result from barriers being lowered through competitive entry into the market for local exchange services.¹⁷⁸

175. Tr. 8/31/95 at 316. Dr. Taylor and other economists argue that the ECPR is necessary to promote efficiency in the delivery of a retail service. Certain vertical services (services that depend on the link for use by consumers) are asserted to be priced well in excess of their incremental costs. If one assumes that these vertical services will necessarily migrate with the link to competing service providers of the link (or the basic service package that includes the link), then competitors can benefit from the high profit margins on these vertical services. If one prices the link at wholesale in a way that does not reflect the entire "margin" or "net lost revenue" from these vertical services, then even inefficient retail service providers can successfully compete in these markets. If, on the other hand, wholesale is priced in a way that incorporates these margins, then only efficient competitors (*i.e.*, entrants that compete for services such as retail marketing, and billing, and collection) can successfully compete against the incumbent. Key assumptions in this analysis include the following: (1) these vertical services would actually migrate with the link or basic service to a competitor; (2) the margin from these vertical services is not somehow retained and collected in the margin on wholesale services from the same incumbent provider (*e.g.*, through access charges on toll); and (3) that there is no significant threat of facilities-based bypass of the link. The analysis also assumes that lost revenues from other vertical services (*e.g.*, interstate access revenues) correspond to actual reductions in cost recovery and earnings; as suggested earlier, this assumption may be questionable. See Footnote 170.

176. Even assumptions that are static in nature may be drawn into question. NYNEX indicates that "when a provider is required to provide interconnection to a rival, it forgoes the opportunity to provide any retail services to the end user that will now be the rival's retail customer." NYNEX Brief at 39. In Rochester, New York, a CLEC which resells Frontier's local exchange services automatically receives the customer's intraLATA toll calling. AT&T is requesting a similar arrangement in Vermont. Salvatore *pf.* at 14.

177. Cornell *pf. reb.* at 10-11; tr. 8/31/95 at 395-396.

178. Cornell *reb. pf.* at 7, 10. A mark-up for LECs to recover certain joint and common costs may be analogous to the "account correcting for efficiency" ("ACE") developed by Vermont regulators to compensate electric distribution companies for the net lost revenues that result from their energy efficiency or "demand-side management" ("DSM") program activities. ACE is intended to encourage an electric company to acquire societally least-cost resources: though in many cases DSM is less expensive than supply-side investments, the attendant reduction in sales constitutes a significant disincentive to the utility. ACE enables utilities to recover contribution to fixed costs that is lost when DSM programs cost-effectively reduce sales. Docket 5270, Order of 4/16/90, Vol. IV at 17-28.

NYNEX and the ILECs do not propose that the ECPR be implemented in its "pure" form. Rather, they recommend that the *average* revenue loss from vertical services would be used as the basis for the wholesale mark-up. Such a mechanism will not (by definition) recover all the "contribution" that would be lost as customers are selectively carved off by competitors.¹⁷⁹ As such, the ECPR as proposed would seem to fall short of achieving one of its ostensible objectives, namely keeping the incumbent "whole."¹⁸⁰ Consequently, it is unlikely to be an effective mechanism for the recovery of legitimate costs of service.

Finally, the experience with AT&T's entry into the local exchange market in the Rochester Telephone service area (under the terms of the "Rochester Plan") suggests that indeed there are many factors besides pricing that may be significant impediments to competitive entry.¹⁸¹ Even under wholesale pricing arrangements that appear to be more favorable than the ECPR, competitive entry in that market has been limited.¹⁸²

Although I reject the ECPR, I do not dismiss the concern that the LECs have raised in proposing a mechanism for the recovery of legitimate net lost revenues. I believe, however, that these concerns can be addressed by consideration of several factors that are either not recognized in a static analysis or are ignored in the assumptions implicit in the ECPR. These factors include the following:

- In the main, the ECPR attempts to deal with the problem posed by the pricing of certain categories of vertical services (such as enhanced and toll access services) well in excess of their underlying costs, a pricing practice that may be unsustainable in a competitive market.¹⁸³ Competitive entry in

179. Tr. 8/31/95 at 319-320.

180. Tr. 8/29/95 at 31-32; Cornell reb. pf. at 10. Keeping an incumbent "whole" is not an end unto itself. It is only appropriate insofar as the public good is promoted by doing so. Our goal here is to effect a smooth and orderly transit through the evolving market for telecommunications services, in a way that best serves the needs of Vermont's ratepayers.

181. Of the ten carriers that originally announced plans to enter and participate in this marketplace, only AT&T actually entered. The wholesale price for basic service was set at a five percent discount off the retail rate. AT&T asserts that it has sustained financial losses in this venture. Tr. 8/30/95 at 246, 265.

182. *Id.*

183. Schoonover pf. at 13. "Vertical" services here refers to categories of services that fundamentally depend on the "link" or customer access to the network in order to deliver these services.

Until a forward-looking analysis of costs has been conducted, I am reluctant to conclude that any category of services has been "mispriced." Even if these vertical services are priced well above their forward-looking costs, that is not cause for concluding that other services, such as basic service, are being priced below their costs. It has also been asserted that there are economies of scope or scale in telecommunications services.

(continued...)

telecommunications markets has been described as slow.¹⁸⁴ I conclude that the incumbent LECs will have an opportunity to gradually adjust rates, as appropriate, to better reflect the competitive character of the evolving communications market in Vermont.¹⁸⁵ A flexible incentive rate plan should complement efforts to ensure sustainable and efficient pricing of services in the face of competition.

- In the case of facilities-based competition, the incumbent will lose all "contribution" it receives from the retail customers who now switch to alternative providers.¹⁸⁶ Under the pricing rules and constraints that I have recommended, the LECs should have an incentive to price services at wholesale so as to mitigate the loss of revenues at the retail level.¹⁸⁷ I believe that, ultimately, the effect of implementing the ECPR would be to promote facilities-based bypass of the local loop.¹⁸⁸ This would not only encourage inefficient investment, but would also exacerbate concerns for lost contribution and the financial integrity of the incumbent LEC.
- So long as an LEC continues to provide certain services or functions as a regulated monopoly, its rates for those services (including relevant, prudently incurred costs and return on investment) will be set through the regulatory process, with any associated opportunities for cost recovery.
- The costs of providing services over the existing network can reasonably be expected to continue their historical decline.¹⁸⁹ Here I include both the cost of new facilities required for investment and the operating expenses of the local exchange providers. Innovation and technological developments that are

183. (...continued)

As such, all categories of service may in fact be priced above their forward-looking costs. In that case, the only issue is where to place the mark-up over the forward-looking costs, for purposes of recovering "contribution" toward other categories of costs, such as joint and common, deemed appropriate for recovery in establishing rates.

184. Tr. 9/29/95 at 102-103; exh. H-2 at 8.

185. Raymond pf. at 9-10; tr. 8/31/95 at 397. And, indeed, the recent initiatives to bundle touch-tone into the basic service rate by Vermont LECs and the recent decreases in NYNEX's optional calling plan rates and access charges (resulting from Dockets 5700/5702) demonstrate that there has already been significant movement to reduce the rates for vertical services relative to the basic service charge.

186. Pricing the link at wholesale to reflect an estimate of lost revenues could well encourage bypass of the incumbent LEC's facilities. In encouraging facilities-based bypass, the issue of lost revenues could well be exacerbated as the LEC would likely lose any opportunity to collect contribution through the pricing of wholesale services, whether through vertical services or through the link itself.

187. Several witnesses in this case have indicated that some kind of mark-up of wholesale services in order to give an LEC a reasonable opportunity to recover its overall cost of service is appropriate. Tr. 8/28/95 at 46, 55, 60-61, 202-203; Salvatore pf. at 7.

188. Tr. 8/31/95 at 396.

189. See, e.g., *The Ten-Year Telecommunications Plan* at 23.

further spurred on by the development of competition in the market for local exchange services (*i.e.*, dynamic efficiency) should also put downward pressure on costs.¹⁹⁰

- I believe that growth in service demands can reasonably be expected to increase and thereby enhancing the on-going financial integrity of existing LECs.¹⁹¹ There is no reason to conclude that significant growth in the demand for traditional telecommunications services will not continue.¹⁹² Furthermore, as capabilities of the network continue to expand, there will be additional opportunities for incumbents to recover costs.

Cost recovery is of genuine concern to the incumbent LECs. Nevertheless, I conclude that adoption of the ECPR would not be in the best interests of Vermont's consumers. I believe that any strategy for implementing the ECPR will ultimately fail to bridge the gap between a potentially rational theoretical concern in a static environment and the rule's practical difficulties in an environment in the midst of great change.

In summary, I recommend that the ECPR not be relied upon for wholesale pricing. By adopting the principles that I have proposed, the Board can encourage pricing practices that are both sustainable and efficient.¹⁹³ For the reasons stated, therefore, I recommend that the Board reject the ECPR and direct the parties, in Phase II, to propose alternative mechanisms, as necessary, for addressing any residual concerns for providing incumbent LECs a reasonable opportunity to recover their just and reasonable costs of service, during the transition to a fully competitive telecommunications market.

190. Cornell reb. pf. at 7.

191. This expectation alone might be sufficient reason to reject the ECPR in favor of a much more narrowly calculated mark-up on wholesale. While I have not recommended that a mark-up on the wholesale prices of essential services be prohibited, neither have I concluded that all wholesale services should be eligible for a mark-up. At this point we have no evidence on how to properly calculate and assign a mark-up.

192. Here, I include both access line growth and the traffic that is associated with each access line. Growth in these areas is likely the result of the dramatic declines in the cost of usage and in the dramatic increases in consumer demands for complementary goods and services (*e.g.*, computers and on-line services). For example, nationally, interstate toll access minutes grew at 11.2 percent/year between the third quarter of 1984 and 1992 (37.5 billion to 87.9 billion). FCC *Statistics of Common Carriers*, Table 8.9 at 313.

193. Cost studies should help both regulators and incumbent local exchange providers better understand the relationship between existing prices and forward-looking costs for purposes of establishing rates that meet those criteria.

d. Imputation

Imputation is a pricing rule that establishes a retail pricing floor or, minimum price, for each local service such that the retail price is greater than or equal to the sum of the price charged to competitors for relevant unbundled network services and the incremental cost of all other inputs used to produce the service.¹⁹⁴ The parties in this case generally agreed with the earlier conclusion of the Board that imputation rules were needed to safeguard fair and equitable competition.¹⁹⁵

The imputation test is designed to prevent a "price squeeze" by the incumbent provider and to ensure that retail service is delivered at the lowest possible price.¹⁹⁶ As explained by ATP witness Kelly, setting the wholesale rate for interconnection equal to the retail rate will discourage efficient competition and result in unnecessarily high prices for consumers.¹⁹⁷

The imputation rule proposed by NYNEX in this case differs somewhat from that proposed by others in this Docket.¹⁹⁸ NYNEX argues that every possible difference in costs between the LEC in providing service to itself and to competitors should be taken into account in the pricing rules that the Board adopts.¹⁹⁹ To the extent that reflecting such cost differences in pricing will in fact promote economic efficiency, I conclude that it is appropriate to adopt the imputation rule proposed by NYNEX.

I conclude, then, that the pricing differential between the LEC's wholesale prices and its retail price should account for legitimate and quantifiable differences between self-provisioning and resale provision of the services.²⁰⁰ I also conclude that retail pricing

194. Salvatore pf. at 16; Ankum pf. at 18.

195. Dockets 5700/5702, Order of 10/5/94 at 122; Ankum pf. at 10; Ankum pf. at 18; Frontier Brief at 19-20; Raymond pf. at 38; tr. 8/30/95 at 260-261, 277; Taylor reb. pf. at 21; Salvatore pf. at 17.

196. Taylor pf. at 47.

197. Kelly pf. at 8-11.

198. Taylor pf. at 47.

199. *Id.*

200. I accept this test with some reluctance, for the reasons expressed by Dr. Cornell. Tr. 8/29/95 at 247-248. I believe that this is the appropriate test from the standpoint of economic efficiency, at least in a static sense; nevertheless, I am concerned that the incumbent LECs may have an incentive to either exaggerate their claims of differences between self-provisioning and provisioning for a retail competitor, or fail to design operations for efficient use of monopoly facilities by both the incumbent and its competitors. I believe that claims of exaggerated costs related to wholesale provisioning of services will merit special scrutiny by regulators and necessitate appropriate responses were such abuses to arise. In instances where there is reasonable doubt about either claims of cost differences or failure to reflect the least-cost method for wholesale provisioning, the imputation test should recognize no cost difference between self-provisioning and wholesale provisioning.

flexibility is appropriate if it is based upon a proper test for imputation.²⁰¹ Consistent with the Board's conclusions in Dockets 5700/5702, I believe that the imputation test should apply on a service-by-service basis.²⁰²

E. Interconnection, Equal Access, and Other Features Relevant to Fair Competition

1. General

The efficiency of a competitive market is improved when the costs of effecting transactions in that market are minimized.²⁰³ Transaction costs, such as information and contracting costs, can represent significant barriers to competition. It is obviously critical, therefore, that the Board establish sensible mechanisms to assist competitors in reducing such costs. The major sets of barriers that were examined in this docket involve the interchange of traffic among providers and the technical and jurisdictional impediments to the provision of the various services.

2. Interconnection

As used in this docket, interconnection refers to any arrangement necessary to enable two or more competing local exchange carriers operating within the same geographic area to exchange calls among their respective networks. Interconnection is intended to assure the "seamless exchange of traffic" between competing networks, as if calls were being completed over a single network.²⁰⁴

All the parties in this docket agreed that interconnection is an absolute prerequisite to competition in the local exchange market. Several parties differ in their recommended approaches to interconnection — *e.g.*, technical and financial aspects²⁰⁵ — but, all in all, there is

201. Raymond pf. at 40; Raymond reb. pf. at 38.

202. DPS Brief at 68; Dockets 5700/5702, Order of 10/5/94 at 123-124. In certain instances, wholesale prices will need to reflect the character of specific retail charges for the same services, for example, the caps that are applied to monthly charges for local measured service in Vermont.

203. This is a general principle of neo-classical economic theory. *See, e.g.*, Gould and Ferguson, *Microeconomic Theory* (Homewood, Ill.: Richard D. Irwin, Inc., 1980) at 241, 461-462.

204. Calabro pf. at 17-18; Riggert pf. at 23.

205. *See* Calabro pf. at 22ff and Cornell reb. pf. at 10.

broad agreement on the concept. The ATP specifically request that the Board affirmatively order incumbent LECs to interconnect with competitors.²⁰⁶

I adopt that recommendation. No provider of competitive local exchange services should be permitted to refuse a *bona fide* request for interconnection, and it must set a price for interconnection that meets the requirements set out in Section III.D. of this proposed decision.

a. Reciprocal Compensation

Inter-company interchange of traffic imposes costs. Specifically, a local exchange provider incurs a cost when terminating a local call, whether the call originates on the provider's own system or another. The parties agree that, assuming that it is properly priced, such terminating access should be billed to the company (and, ultimately, to the customer) that originated the call.²⁰⁷

I concur. The evidence on this point was straightforward and undisputed. I recommend that the Board instruct incumbent and competitive LECs to negotiate and implement mechanisms that will allow for the fair and efficient interchange among their respective local exchange systems, consistent with other relevant directives in this decision.²⁰⁸

b. Pricing for Reciprocal Compensation

Compensation for interconnection and termination of local exchange traffic should be priced according to the criteria set out in Section III.D., Costing and Pricing Issues.²⁰⁹ For

206. ATP Brief at 2.

207. Calabro pf. at 21, 24-25; tr. 8/31/95 at 191-192; Raymond reb. pf. at 43; Cornell reb. pf. at 10; tr. 7/27/95 at 33; tr. 8/28/95 at 144-148; exh. H-1 at 7; *see also* ATP Brief at 2-3. Specifically, NYNEX witness Calabro testified that "Local exchange carriers should be compensated fully for the actual consumption or use of their network, measured by minutes of use and attempts, if appropriate." I make no finding here as to the appropriate rate design for local exchange interconnection, although I note that, by application of the rule of cost causation in setting prices, it is certainly conceivable that interconnection charges need not be usage-sensitive, insofar as the costs of interconnection are not usage-sensitive. In any case, whatever the pricing structure settled on, the prices themselves must satisfy the pricing rules detailed in Section III.D., above.

208. This applies to facilities-based competitors as well as resellers. While an incumbent is not physically exchanging traffic with a reseller, there will nevertheless need to be contractual and administrative tools in place that provide for appropriate record-keeping and billing.

209. Here I am differentiating between, on the one hand, physically interconnecting one network with another and, on the other, terminating local traffic between the networks.

the reasons articulated in that section, I reject at this time the argument that the wholesale prices of these essential services should be set at TSLRIC and no more.²¹⁰

I note that, in New York, NYNEX has jointly proposed with other interested parties a model interconnection agreement that provides for reciprocal compensation among facilities-based competitors at incremental cost only, with no mark-up for joint and common costs.²¹¹ It appears from my review of that agreement that the charges for terminating traffic will be set at "incremental cost," but it is not clear that the prices for interconnection itself will be capped at incremental cost.

i. Mutual Traffic Exchange

One form of reciprocal compensation is referred to as "mutual traffic exchange" and it describes an interconnection arrangement whereby competing local exchange providers terminate each other's local exchange traffic at no charge. It is also called the "bill and keep" method.²¹² The ATP and other potential CLECs argue that it is the best method for accounting and paying for interconnection: it reduces administration costs, implicitly sets interconnection prices at TSLRIC, and gives each firm an incentive to be more efficient, since it will reap the benefits of any savings that accrue.²¹³ Frontier in particular recommends that the Board direct that interconnection "be made available on the basis of mutual traffic exchange" until cost studies are completed that will form the basis for the pricing of interconnection (and switched access) at TSLRIC.²¹⁴

NYNEX opposes the imposition of such a requirement, arguing that "bill and keep" encourages a CLEC to seek out new customers whose local exchange traffic, in the main, originates on others' networks and terminates on its own, which is to say that the CLEC

210. As I have stated several times before, this is a conditional conclusion. See Footnotes 163 and 191. I should also note here that it seems reasonable to suppose that the rates for terminating local exchange traffic should be the same among all firms competing in the same area, but it is not entirely clear that this symmetry necessitates regulatory intervention. Presumably, competition will force firms to charge similar, if not the same, rates.

211. Exh. H-2 at 7 and Att. 1. "Incremental cost" is not defined.

212. Tr. 8/31/95 at 192.

213. Tr. 8/29/95 at 110, 221-222; ATP Proposed Decision at 16-17; ATP Brief at 19; Frontier Brief at 23; MCI Brief at 2, 22.

214. Frontier Brief at 29.

receives revenues for services whose costs it does not fully bear (in this instance, the costs of originating calls).²¹⁵ In addition, NYNEX suggests this odd incentive will discourage firms from acting in ways that optimize interconnection efficiency.²¹⁶

Though opposing, the positions of the CLECs on the one hand and NYNEX on the other are both reasonable. They are reconcilable only upon consideration of another variable, that of time. An incumbent LEC has little incentive to enter into mutual traffic exchange agreements so long as it perceives that the costs of doing so outweigh the benefits: in this example, the avoided billing and collection costs do not offset the loss in the incumbent's net revenues resulting from a disproportionate volume of uni-directional CLEC traffic. In contrast, mutual traffic exchange will likely yield some efficiency gains in the local market, mostly by eliminating a significant measure of administrative costs. As for the assertion that "bill and keep" creates a perverse incentive for inefficient network deployment, I simply cannot judge on the basis of this record.

The evidence supports a finding that mutual traffic exchange will work effectively when local exchange markets become more competitive, when traffic among networks is reasonably balanced.²¹⁷ A decision by the Board not to require mutual traffic exchange agreements from the outset will not create a significant barrier to competitive entry. The pricing rules and requirements for reciprocal compensation set out above, in union with other relevant directives herein, adequately promote fair competition in local exchange services. I therefore recommend that the Board not adopt Frontier's proposal at this time; but neither do I recommend that the Board prohibit "bill and keep" arrangements. One imagines that they will occur when they serve the respective interests of the contracting parties.

ii. "Pay or Play"

In place of mutual traffic exchange, NYNEX proposes that the Board implement a plan, referred to as "pay or play," that lays out criteria by which CLECs would be entitled to receive compensation for terminating other carriers' traffic on their networks. Specifically, only those CLECs who agree to provide local exchange service, including Lifeline, to a

215. Tr. 8/31/95 at 193-194.

216. *Id.* at 193-195.

217. *Id.* at 194-195.

customer base in the same demographic proportions as those of the incumbent, and who do so within two years of their entry into the market, would be entitled to receive compensation from competing carriers for the use of their networks.²¹⁸

NYNEX argues that the "pay or play" plan will:

encourage carriers who are truly interested in being full fledged competitive local exchange carriers in Vermont to commit themselves to serving a full range of end-users, or else be required to provide a contribution to those who do.²¹⁹

NYNEX argues that carriers that do not serve residence and Lifeline subscribers in comparable proportions to incumbent carriers should not be able to charge the incumbents and other "full service" providers compensation for terminating traffic.²²⁰ NYNEX reasons that, due to a historic "system of implicit price supports," those who provide universal service would be bearing the costs of that obligation twice: once in their own costs of service and again through an unnecessarily inflated payment to a carrier that is not so obligated.²²¹

The Department, ATP, Frontier, MCI, and AT&T all oppose the "pay or play" proposal.²²² Their foremost reason for rejecting the plan is that it will erect a terrific barrier to entry, thereby stifling competition.²²³ The "pay or play" proposal imposes costs on potential competitors that act, in effect, like a price squeeze:²²⁴ first, by mandating that CLECs offer ubiquitous service in an unreasonable time frame and, second, by prohibiting them from receiving compensation for actual costs incurred on behalf of other carriers.²²⁵ Furthermore, the plan:

218. Calabro pf. at 22-25; tr. 8/31/95 at 70-71.

219. Calabro pf. at 22.

220. NYNEX Brief at 84.

221. *Id.* at 25-26; tr. 7/28/95 at 104, 118-119; tr. 7/29/95 at 192; NYNEX Brief at 83-88.

222. DPS Brief at 23-24; ATP Brief at 19-21; Frontier Brief at 25-26; MCI Brief at 19-21; AT&T Brief at 53-55.

223. Cornell reb. pf. at 20; Raymond reb. pf. at 42, 46; tr. 7/27/95 at 97.

224. Cornell reb. pf. at 21.

225. Raymond reb. pf. at 46; Cornell reb. pf. at 21-22.

would stifle or preclude a significant benefit of competition — that [of] the diversity of services offered to customers is increased by allowing multiple service providers to enter (and exit) select market segments.²²⁶

Those opposing the "pay or play" plan maintain that the goals of competition and universal service are not mutually exclusive.²²⁷ Frontier, MCI and, AT&T contend that a universal service fund such as that already implemented in Vermont will meet the public policy objectives in a competitively neutral fashion.²²⁸ Lastly, the ATP argue that the record does not establish the veracity of the premise on which the "pay or play" proposal is based — namely that universal service is maintained by cross-subsidies internal to NYNEX's cost of service.²²⁹

I conclude that the evidence does not demonstrate that the "pay or play" proposal would best meet the objectives that it is ostensibly intended to serve: competitive neutrality and universal service.²³⁰ On the contrary, the plan is anti-competitive, insofar as it imposes a universal service obligation upon competitors in a discriminatory fashion. As witnesses for the Department and the ATP rightly pointed out, there is no compelling public policy justification for linking universal service with an obligation to serve customer classes in proportions equal to those of the incumbent.²³¹ Indeed, the opposite seems to be the case: that such a linkage threatens fair competition and its attendant benefits.²³²

226. Raymond reb. pf. at 46. Dr. Raymond goes on to point out that:

In none of the emerging telecommunications services have providers been ordered "everywhere at once" or [to] serve a complete cross-section of the community. Besides, if the economics of pricing are done correctly, the incentives to "cream skim" will be greatly dampened, and the attractiveness of smaller markets can be increased.

Id.

227. Ankum pf. at 19; tr. 8/28/95 at 65; AT&T Brief at 55-56; MCI Brief at 15-16.

228. Ankum pf. at 24; tr. 8/29/95 at 197; Frontier Brief at 24-25; AT&T Brief at 55-57; MCI Brief at 20. It should be noted that these companies do not agree on the details of such a mechanism. See Section III.F. for a discussion of this issue.

229. ATP Brief at 20. The ATP point out that "evidence from other jurisdictions is, in fact, that basic service is not receiving a subsidy from other classes of service. *Re New England Tel. Co.*, 152 PUR 4th 1, 24 (N.E. 1994); *Re Telcom. Reg. within Michigan*, 116 PUR 4th 495, 521 (Mich. 1990); *General Investigation into IntraLATA Toll Competition Access Rates*, 1993 WL 475294, at 3-4 (N.H. P.U.C., June 10, 1993); *New England Tel. Generic Rate Structure Investigation*, 1991 WL 494307 at 66-67 (N.H. P.U.C., March 11, 1991)."

230. Cornell reb. pf. at 20-21; tr. 8/29/95 at 15-16.

231. Tr. 8/29/95 at 15-16; tr. 8/29/95 at 197-198.

232. Raymond reb. pf. at 46.

For these reasons, I recommend that the Board reject NYNEX's "pay or play" plan. I must point out, however, that rejecting "pay or play" is *not* the same as rejecting a requirement that all local exchange providers must offer service to all who request it within their certificated areas of service. Section III.F.3., below, examines this question in greater detail.

c. Interoperability, Minimum Service Requirements, and Points of Interconnection

Efficient, low-cost interchange of traffic requires that all facilities-based competitors meet minimum industry standards for transmission, signaling, call set-up, and call blocking.²³³ In addition, specific interconnection requirements should include the obligation for all carriers to forward and honor customer privacy selections, *e.g.*, call blocking of customers of competing carriers where SS7 technology is available. This is essential to meeting the privacy expectations of Vermont consumers and the public policy objectives as set out in the *Ten-Year Plan* and earlier Board Orders.²³⁴

The evidence established that interoperability standards are necessary to protect competitors against discrimination in interconnection or information and to ensure fair treatment of all players. Such "open interfaces" require participation in the "existing industry-led, market-driven standards process", which creates standards that are "formally recognized by a national or international standards body."²³⁵

There was no dispute among the parties that minimum interoperability and service requirements standards must be set and adhered to if the efficient interchange of traffic among providers is to be achieved. In this phase of the docket, however, the Board has not been asked to rule on the specifics of any such requirements. Moreover, no detailed evidence was presented, with respect to either specified standards or formal institutions currently overseeing

233. Calabro pf. at 18.

234. *Id.* at 19; exh. H-2 at 5-6; *see also The Vermont Ten-Year Telecommunications Plan* at 8, 63-68, and Docket 5404, Order of 2/12/93.

235. Riggert pf. at 25.

such a process.²³⁶ At this point it appears that these questions are better addressed through direct negotiations among providers and in the workshops to be conducted in the second phase of this docket. Disputes, as always, may be brought before the Board for resolution.

As to the question of the appropriate points for physical interconnection, NYNEX proposed a three-part rule, as follows:

- (1) Interconnection of competing LEC networks for the interchange of traffic between an incumbent and a new entrant should be provided at both the end-office and tandem switching systems;
- (2) Interconnection for access to unbundled services or facilities should be limited to central office locations where a suitable environment for interconnection is maintained; and
- (3) Interconnection in outside plant locations, such as on telephone poles or in manholes or vaults, should not be required.²³⁷

AT&T witness Riggert testified that it will be necessary for competing carriers to designate interconnection points where traffic "hand-off" will take place, and that this designation process should not happen so as to erect inappropriate barriers for new entrants: for example, by requiring interconnection points at every end office of the incumbent.²³⁸

It is important to understand that Mr. Riggert differentiates this type of "inter-company interconnection" (*i.e.*, that which is necessary for traffic interchange) from interconnection "that will be required for each unbundled element" (basic network functions or "BNFs" as he describes them) of the incumbent's system that a competitor wishes to purchase in order to provide local service.²³⁹ His testimony assumes that it is critical to assure that interconnection can occur in ways that enable competitors to purchase only those BNFs that it wants, no more nor less.²⁴⁰

236. See Riggert pf. at 6. Mr. Riggert recommends that unbundled basic network functions be made available, utilizing "transmission protocol and physical interconnection standards, either existing or under development, that are recommended by an acknowledged industry body." This is a reasonable suggestion.

See also tr. 8/29/95 at 7. DPS witness Raymond described the recent efforts of the Inter-Industry Liaison Committee ("IILC"), designated by the FCC to develop standards for open network architecture. Dr. Raymond suggested that the IILC's accomplishments might serve as a "platform" for further work by the parties to this docket during workshops in Phase II.

237. NYNEX Brief at 81.

238. Riggert pf. at 23-24.

239. *Id.* at 5-23.

240. *Id.* at 8-9, 24-25.

I agree and recommend, therefore, that the Board reject NYNEX's three-part interconnection rule: it is unnecessarily restrictive. I note that interconnection will be determined largely by the prevailing set of unbundled elements; the technical feasibility of unbundling is in part a function of the ability to interconnect. As the set of BNFs changes over time, so too will competitors' needs and methods for interconnection. Here again the market, far better than a regulator, will drive this process, which will be mainly contractual in nature. The Board is better situated to resolve disputes among negotiating providers than it is, today at least, to prescribe meticulous rules.²⁴¹ As for the costing and pricing of interconnection services, the rules as set out in Section III.D. of this proposed decision should naturally apply.

d. Access to "Pathways"

Related to the question of network interconnection is access to "pathways," *i.e.*, poles, conduit, building space, risers, and public rights-of-way. Such access must be non-discriminatory.²⁴²

This is a straightforward proposition. Again, the question is one of reducing barriers to competition: all competitors, including the incumbent, must have equal access to the pathways. Specifically, this means that the terms, conditions, and pricing (or imputation) rules of such access must apply equally to all players in the market.

e. Interconnection for Cellular Service

ATP witness Kelly gave detailed testimony on the types and relative prices of interconnection service that Atlantic Cellular purchases from NYNEX. For Type 2 interconnection calls, which are routed through a tandem office, NYNEX charges Atlantic Cellular the same terminating charge assessed on interexchange-carrier traffic.²⁴³ For calls

241. This, of course, may change more rapidly than one expects, and it may very well be that there are specific steps that the Board can take to reduce or eliminate interconnection barriers to effective competition. I therefore direct the parties to address in greater detail, in the next phase of this proceeding, the question of interconnection protocols and any recommended regulatory actions. Raymond reb. pf. at 47; see DPS Brief at 69.

242. Exh. H-2 at 6; see also MCI's Phase I Position Paper, 4/19/95, at 2.

243. Kelly pf. at 7-8.

routed through a Type 1 interconnection, however, NYNEX charges Atlantic Cellular the sum of NYNEX's retail rates for local-measured service and wholesale rates for a T.1 facility; this arrangement is equivalent to Flexpath service, a business retail service offered by NYNEX.²⁴⁴ Furthermore, Atlantic Cellular receives no compensation for terminating NYNEX's traffic, no matter where in Atlantic Cellular's service area the call is sent.²⁴⁵ The ATP argue that:

The current pricing for interconnection thus makes it impractical for Atlantic Cellular to offer a service that competes with Flexpath since one of its cost inputs would be the entire Flexpath retail price, including a per-minute charge that is the same as the measured rate for all of NYNEX's business and residential, basic-exchange customers.²⁴⁶

The ATP request that, "[a]t the minimum, the Board should order NYNEX and all LECs to offer (either by tariff or contract) wholesale rates for Type 1 interconnection."²⁴⁷

The ATP's request is reasonable, and I recommend that the Board grant it. Requiring interconnectors to pay wholesale rates that are equal to or greater than the incumbent's retail rates is not consistent with the pricing rules set out in Section III.D. Moreover, the failure of NYNEX to pay Atlantic Cellular for terminating its traffic is inconsistent with the requirements for interconnection and reciprocal compensation detailed in this section, III.E. Until the completion of the cost studies and the determination of prices therefrom, NYNEX and the LECs should be directed to negotiate interim interconnection agreements with Atlantic Cellular and other competitors.

3. Equal Access

a. Dialing Parity and Presubscription

Currently, NYNEX's intraLATA (in Vermont, in-state) long-distance toll service requires that a caller dial sequentially one, the area code (802), and the seven-digit phone number of the party called.²⁴⁸ This is sometimes referred to as "1 + ten" dialing. Subscribers of competitive intraLATA toll providers follow the same procedure, but must first dial a five-digit access code, which identifies the carrier of the call, routes it, and establishes

244. *Id.* at 8.

245. *Id.*

246. ATP Brief at 9; Kelly pf. at 8.

247. ATP Brief at 9.

248. *See generally*, Docket 5636, Order of 7/14/93.

proper billing for it.²⁴⁹ AT&T witness Salvatore argued that this lack of dialing parity constitutes a significant barrier to effective competition, since it imposes costs (dialing inconvenience) upon competitors' customers that NYNEX's own are spared.²⁵⁰

AT&T requests that, until presubscription and equal access are assured for all customers' local and toll traffic in-state, the Board should require that the provider (through resale) of a customer's local exchange service be also designated the provider of that customer's intraLATA toll traffic (in the absence of decision by that customer to utilize another long-distance carrier by dialing that carrier's five-digit access code).²⁵¹ AT&T argues that, in the absence of presubscription:

the incumbent LEC automatically receives its residential and small business customer's intraLATA toll calling and, therefore, competitive parity requires that resellers also receive the intraLATA toll traffic of their local exchange end-users.²⁵²

NYNEX opposes AT&T's proposal on the grounds that this issue was not slated for examination in this phase of the docket. NYNEX contends that "The issues being considered here are too complex, and the stakes for the Vermont public are too high, to decide presubscription on anything less than a complete record."²⁵³

AT&T's proposal has a certain appeal. It seeks to redress a competitive inequity, and do so in a way that directly benefits customers. I note, however, that in this regard another asymmetry has gone unmentioned, namely that capability of competitors such as AT&T to provide both intra- and interLATA toll service, which NYNEX (and other BOCs) currently cannot do. That difference would seem to offer IXC's a marketing advantage that the BOCs cannot match.²⁵⁴ While that is not in itself a reason to deny AT&T's request, it is certainly worth considering in the light of more detailed evidence on the issue.

249. Tr. 7/27/95 at 137-138; tr. 8/29/95 at 211; tr. 8/30/95 at 94-95, 212-213.

250. Tr. 8/30/95 at 259. Dialing parity is also referred to as "presubscription," which describes a customer's ability to choose (or subscribe to) an intraLATA toll carrier in the same fashion that she may for an interLATA carrier: in advance of service taken and without any additional dialing requirements. Tr. 7/27/95 at 137-138; tr. 8/29/95 at 211; tr. 8/30/95 at 94-95, 212-213; Riggert pf. at 27-28.

251. Salvatore pf. at 14-15; tr. 8/30/95 at 258; AT&T Brief at 35-37.

252. AT&T Brief at 35-36.

253. NYNEX Reply Brief at 24.

254. This, of course, may change soon enough. Federal legislators are now considering an omnibus telecommunications bill that would remove certain restrictions imposed on the BOCs under the Modified Final Judgment.

I agree with NYNEX that the question of presubscription was noticed for Phase II and that the record on this point is as yet insufficient upon which to render judgment. I expect the parties to more rigorously examine this and related issues in the next phase.

b. Balloting

InterLATA presubscription was instituted during the 1980s with the divestiture of AT&T's BOCs. Presubscription was initiated through a balloting process, wherein customers were given the opportunity to elect their long-distance providers. No party has yet suggested that a similar process with respect to local exchange providers take place in Vermont.²⁵⁵ This question should be looked into in the later phases.

4. Number Portability

AT&T and the ATP raised the issue of local number portability ("LNP").²⁵⁶ This refers to the "ability of end users to change local service providers while retaining their local telephone number, and retaining all existing functionality, *i.e.*, class services."²⁵⁷ The telephony network today cannot support service provider number portability.²⁵⁸

AT&T believes that the absence of LNP is an impediment to the development of effective competition in local exchange service and, in support of that contention, offered evidence on the willingness of customers to change their local exchange providers, with and without the ability to retain their phone numbers.²⁵⁹

At this time, no party requests specific Board action on this issue. This question will be examined in greater detail in the next phase.²⁶⁰

255. Tr. 8/30/95 at 214-215.

256. *Ily* pf. at 5; exh. H-2 at 6.

257. Riggert pf. at 26. Mr. Riggert goes on to explain that "It is typically assumed that LNP [applies] only to a change of service provider, and that the location of the end user is fixed, constraining the end user to maintain service at the same physical premises, or at an address that is served by the same wire center." *Id.*

LNP differs from customer number portability, which describes the capability of a customer to retain her phone number regardless of her physical location in the network. Tr. 8/29/95 at 259.

258. Exh. H-2 at 6.

259. *Id.* at 26-27.

260. Docket 5713, Order of 3/1/94.

a. Competitive Number Assignment and Neutral Third-Party Number Administration

AT&T witness Riggert testified that:

Telephone numbers are a vital, finite, and shared resource in the telecommunications industry, and control over those numbers is an important component in the maximum feasible development of local exchange competition. . . . Today, NYNEX controls NXX assignment and administration, including NPA relief planning. This arrangement improperly places control of a scarce and shared resource in the hands of a single user group. . . .

An impartial industry body, open to all interested parties and including limited government participation, could administer number assignment efficiently, reduce opportunities for abuse, and equitably represent the views of all interested parties.²⁶¹

Mr. Riggert's points are well-taken. Certainly, competition is hindered by a single competitor's control over an important resource. Still, AT&T does not request that the Board take any specified action at this time, other than to find ways to support national efforts in this regard.²⁶² To the extent that there are particular steps that the Board can take to assist in the development of a competitively neutral mechanism for number assignment, the parties should present such evidence and recommendations during the next phases.

F. Public Service Objectives

1. Basic Service

In this investigation, the Board must define the elements of basic telecommunications service ("basic service").²⁶³ This is especially necessary in a competitive environment, in order to establish a "floor" for the purposes of eligibility for universal service fund ("USF")

261. Riggert pf. at 28-29.

262. Tr. 8/30/95 at 213-218.

263. "Basic telecommunications service" is defined by statute, as is the term "telecommunications service." 30 V.S.A. § 7501(b)(1). While this statute is devoted to the state's universal telecommunications service funding mechanism, the sections's definition of "telecommunications service" provides valuable guidance to understanding the term in the broader context of local exchange competition. The statute defines it as ". . . the transmission of any interactive electromagnetic communications that passes through the public switched network. The term includes, but is not limited to, transmission of voice, image, data and any other information, by means of but not limited to wire, electric conductor cable, optic fiber, microwave, radio wave, or any combinations of such media, and the leasing of such service."

disbursements and also for determining "carrier of last resort" status.²⁶⁴ Absent a clear definition, universal service support mechanisms could inappropriately fund distinctly different services. They could also subject providers to unequal responsibilities.²⁶⁵

Defined too broadly, basic service requirements risk being harmful to new entrants.²⁶⁶ As the number of required basic services that a provider must offer (either as a minimum requirement or in order to be eligible for universal service fund support) increases, costs too will increase, possibly making it more difficult for new entrants to participate and grow in the market.²⁶⁷

A precise definition of basic service is intended to ensure a consistent standard for that service throughout Vermont, to minimize confusion, and to meet consumer expectations when switching service providers.²⁶⁸ This is especially the case with that segment of customers least likely to be inclined to sort through the potentially confusing aspects of a competitive market.²⁶⁹

Currently, basic service is defined by statute for purposes of universal service fund support.²⁷⁰ It includes: (1) switched voice grade service; (2) the ability to transmit switching instructions through tones in customer-owned equipment; (3) the ability to transmit and

264. Friar pf. at 13-17; tr. 8/29/95 at 197-198.

265. See Frontier Brief at 26.

266. Ankum pf. at 22. While actual costs of providing the constituents of basic service are unknowable until costs studies are conducted, it is generally undisputed that the more items included in the definition of basic service, the larger the universal service fund will have to be. Tr. 8/23/95 at 80.

267. Wiginton reb. pf. at 2-3; tr. 8/23/95 at 81. Apart from the relative scale of various companies, the extent of universal service obligations required of new entrants in a competitive environment should be no different than those which NYNEX, as the incumbent LEC, will assume on a going-forward basis. Tr. 8/23/95 at 41, 80.

268. This does not mean that all local service offerings must meet specified minimum service requirements. In the next phases, the parties will be invited to comment on the administrative feasibility and desirability of permitting a more limited service package (e.g., a service lacking, say, EAS provisions, CEA provisions, directory listings, provision of white pages, and/or installation of the phone service) not marketed as "Basic Service" (and not eligible for universal service support) which might, for example, be available for second and subsequent lines into homes or businesses.

269. NYNEX urges the Board to be guided by one of the TYP goals: service should be of a "quality that ensures that telecommunications be reliable, fast, responsive and *transparent to users' needs*." Calabro pf. at 3 (emphasis added).

270. 30 V.S.A. § 7501(b)(1)(A)-(E).

receive computer generated data; (4) the ability to communicate with emergency response personnel; and (5) telecommunications relay service which meets required standards.²⁷¹

The statutory list contains basic service elements for current universal service purposes and, as such, the Board lacks authority to order fewer services than those already named, so far as the state's USF is concerned. Still, the list is a useful guide for considering what additional services, if any, should be included in the basic service package of local carriers in a competitive market.

The parties have recommended definitions for basic service that include functions similar to those listed in 30 V.S.A. §§ 7501(b)(1)(A)-(E). Consequently, for the most part, there is general agreement as to what should constitute basic service in a competitive environment. Parties propose that the definition should include (1) switched voice-grade communications,²⁷² (2) touch-tone,²⁷³ (3) toll service,²⁷⁴ (4) emergency service,²⁷⁵ and (5) relay service.²⁷⁶

Parties have proposed other elements which are perhaps implicit in existing definitions of basic service. This is the case with installation,²⁷⁷ repair service,²⁷⁸ white pages (or

271. Relay service standards are mandated by the Americans with Disabilities Act of 1990, 29 U.S.C. § 706; 12101 *et seq.* and 47 U.S.C. §§ 152, 221, 225, and 611. *See also* 30 V.S.A. § 218a.

272. DPS Brief at 14, fn. 2; NYNEX Brief at 75; AT&T Brief at 58; ATP Brief at 23; MCI Brief at 17; and Frontier Brief at 26.

273. Calabro pf. at 27-28; Ankum pf. at 22; Friar pf. at 12-13. *See also* 30 V.S.A. § 7501(b)(1)(B); Docket 5702, Order of 5/17/95 (re: NET rate design changes, including the elimination of Touch-Tone charges).

274. Access to toll service should include the ability to conduct two-way voice and also voice-grade data transmission. Shapiro pf. at 14-15; Calabro pf. at 26; DPS Brief at 14.

275. DPS Brief at 14 fn. 2; AT&T Brief at 59.

276. Calabro Direct at 26-27; AT&T Brief at 58. *See also* 30 V.S.A. §§ 218(a) and 7501(b)(1)(E).

277. The Department is the only party that has urged the Board to make installation an element of basic service. Shapiro pf. at 11. While obviously a necessary first step to any access whatsoever to the network, this key requirement could have been easily overlooked due to assumptions about initial connection to the local network.

278. Calabro pf. at 26-27; AT&T Brief at 58.